

CLAIMS

1. A Cu-Ni-Mn-Al alloy containing nickel in the range $\geq 21\%$ to $\leq 26\%$ by weight, aluminium in the range $\geq 2.1\%$ to $\leq 3.2\%$ by weight and 5 which possesses a Ni:Al ratio of between 8 and 10 (in terms of wt%).
2. The alloy of claim 1 further including iron, chromium and niobium.
- 10 3. The alloy of claim 2 further including one or more of titanium, vanadium, silicon, tantalum or tungsten.
4. A Cu-Ni-Mn-Al alloy having Ni:Al ratio of between 8 and 10 (in terms of wt%) and the composition (% by weight):

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Nickel	21.0 – 26.0
Aluminium	2.1 – 3.2
Manganese	2.8 – 4.1
Iron	0.4 – 1.5
Chromium	0.3 – 1.5
Niobium	0.7 – 1.2
Titanium	0.0 – 0.5
Tungsten	0.0 – 0.5
Tantalum	0.0 – 0.5
Silicon	0.0 – 0.5
Vanadium	0.0 – 0.5
Copper	Remainder

5. The alloy according to claim 4 wherein the nickel, aluminium, and manganese are present in the following amounts (% by weight):

Nickel	21.5 – 24.0
Aluminium	2.2 – 2.5
Manganese	3.0 – 4.1
Iron	0.4 – 1.1
Chromium	0.3 – 1.4
Niobium	0.7 – 1.2

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6. The alloy according to claim 5 wherein the nickel, aluminium, and manganese are present in the following amounts (% by weight):

Nickel	21.9 – 22.1
Aluminium	2.4 – 2.5
Manganese	3.0 – 3.1

10 7. The alloy according to any one of claims 1 to 6 having the following properties after thermo-mechanical processing in the temperature range 800°C to 1000°C and heat treatment in the temperature range 350°C to 600°C:

15 0.2% Proof Stress $\geq 850 \text{ N/mm}^2$
 Tensile Strength $\geq 1000 \text{ N/mm}^2$
 Elongation ($5.65\sqrt{S_0}$) $\geq 8\%$
 Hardness $\geq 280 \text{ BHN}$

20 8. The alloy according to claim 7 wherein the 0.2% proof stress is $\geq 900 \text{ N/mm}^2$.

9. The alloy according to claim 7 or claim 8 wherein the hardness is \geq 300 BHN.

5 10. The alloy according to any one of the preceding claims wherein the Ni:Al ratio is \geq 9.

11. A Cu-Ni-Mn-Al alloy substantially as hereinbefore described with reference to Example 1.

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12. A Cu-Ni-Mn-Al alloy substantially as hereinbefore described with reference to Example 2.